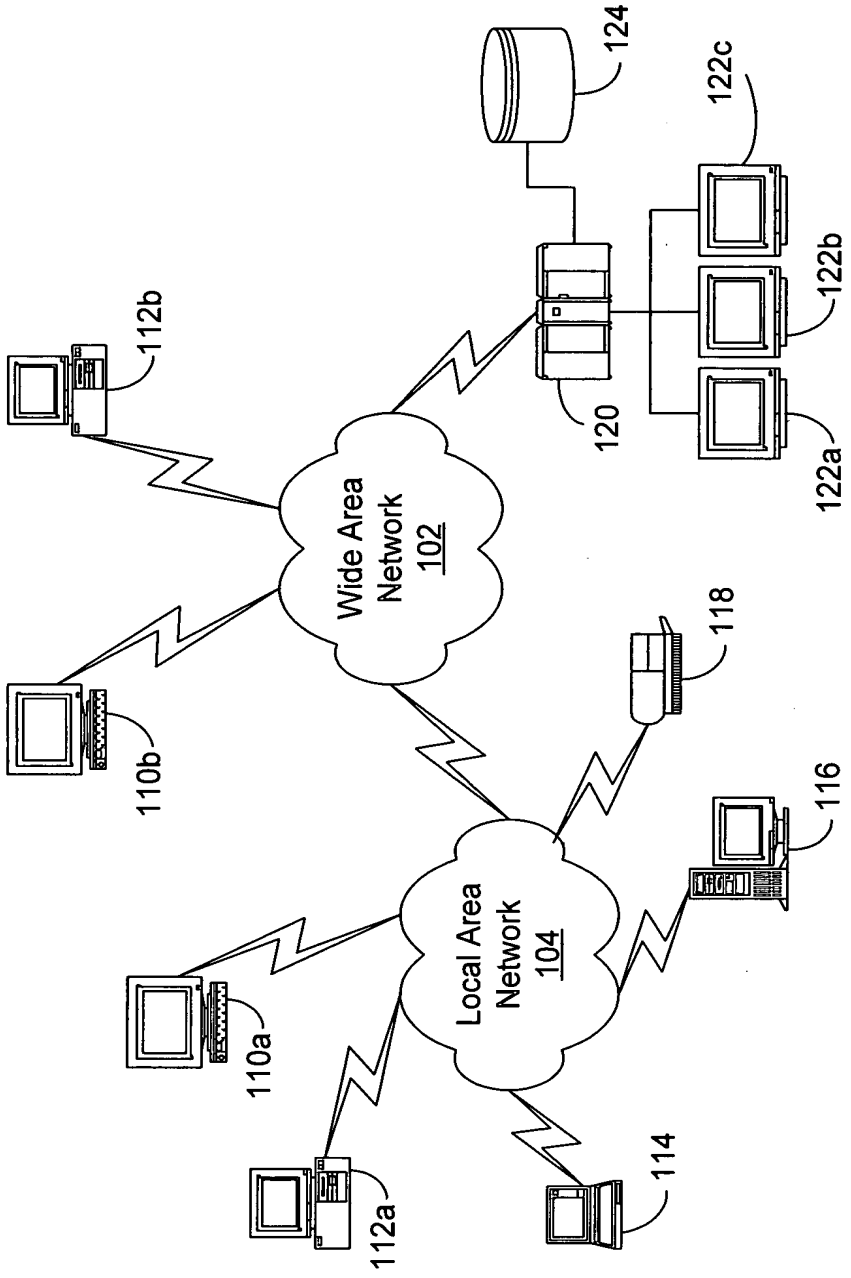

124
122c
122b
122a
120
112b
Wide Area Network 102
110b
118
116
Local Area Network 104
110a
112a
114

Fig. 1

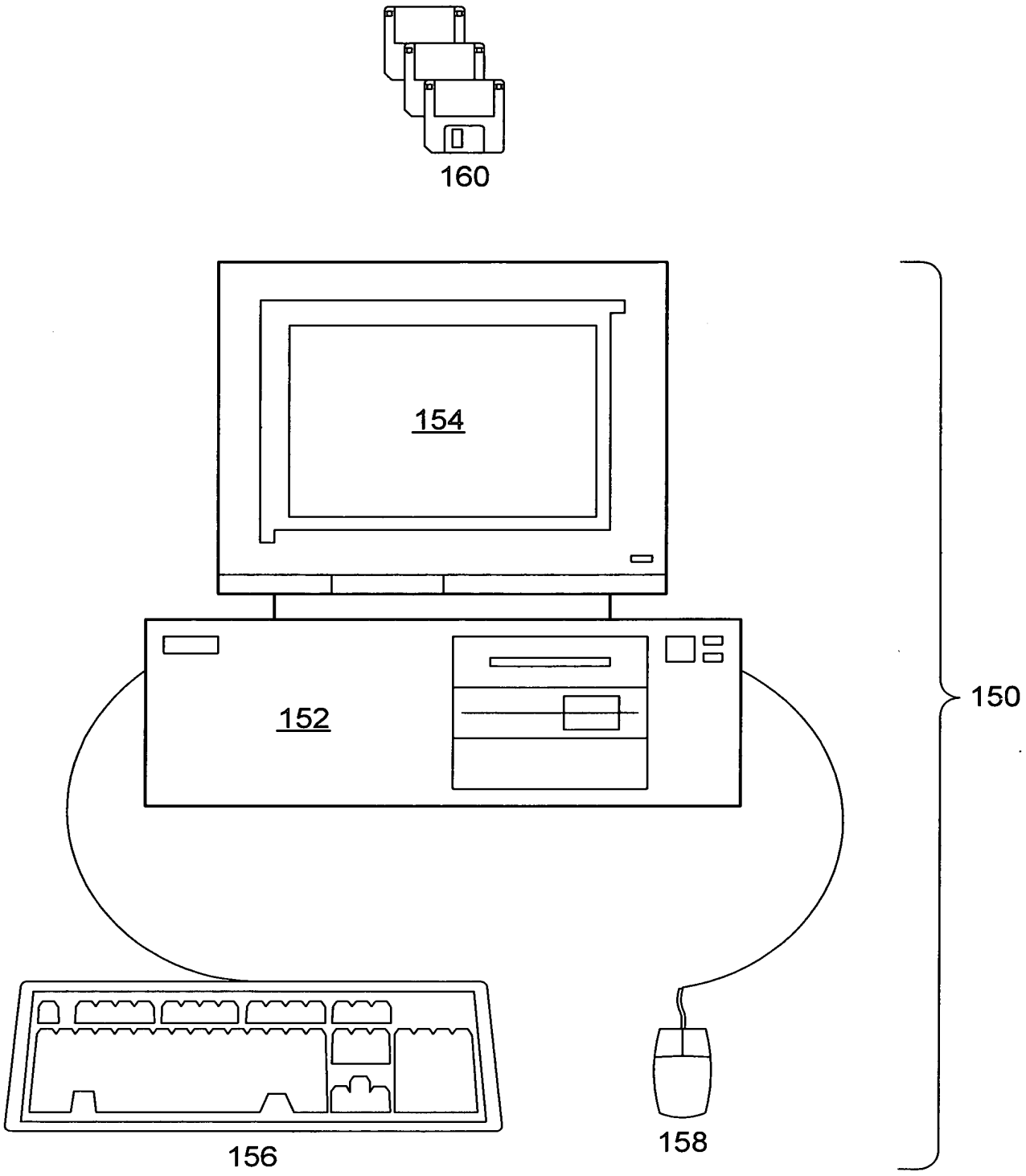


Fig. 2

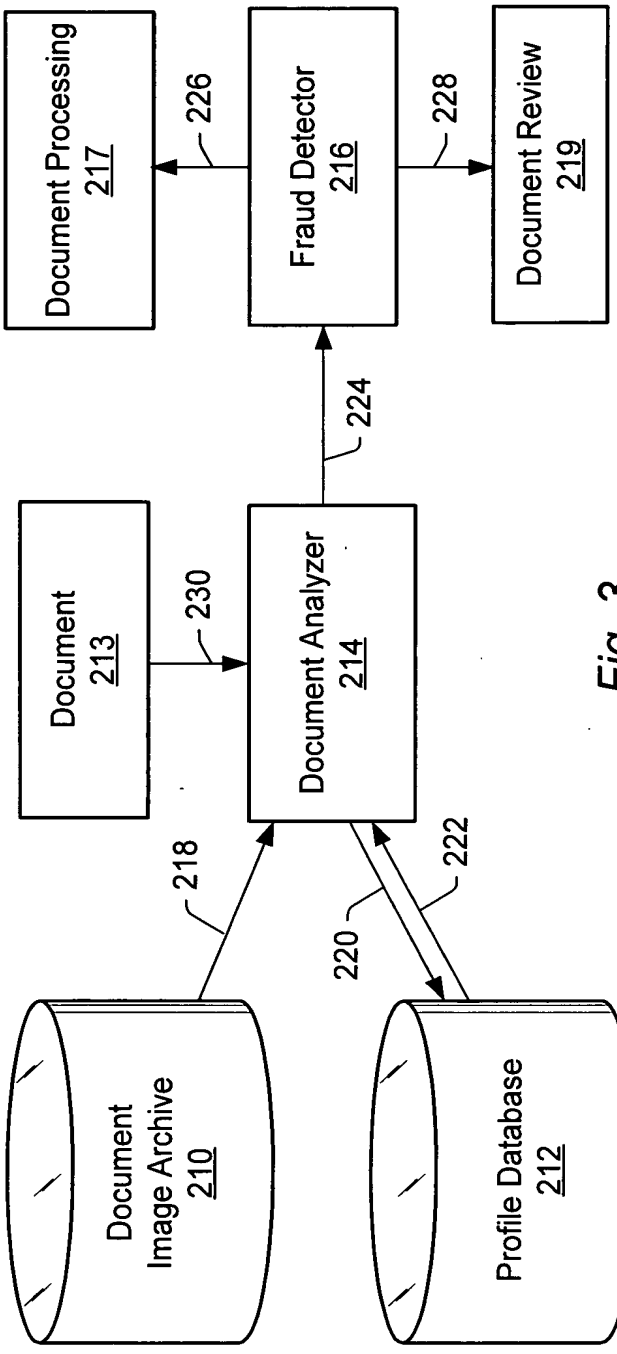

Document Processing
217
226
Fraud Detector
216
228
Document Review
219
224
Document
213
230
Document Analyzer
214
218
220
222
Document
Image Archive
210
Profile Database
212

Fig. 3

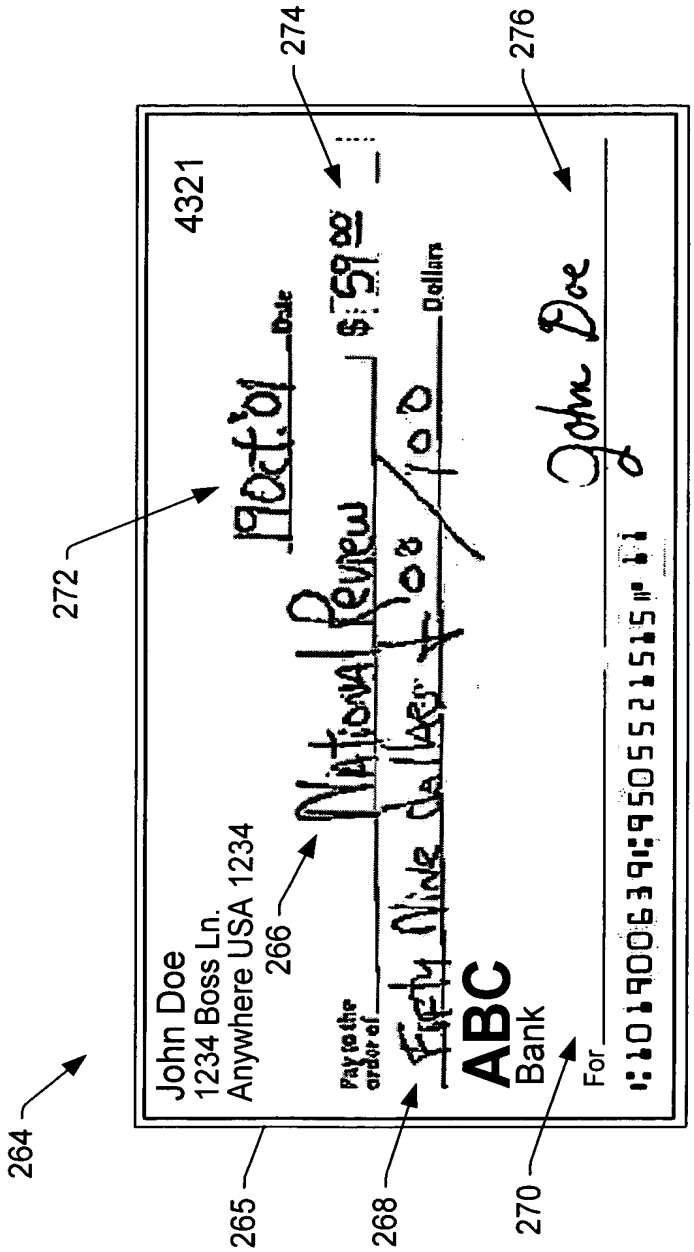

264
272
274
276
265
266
268
270
John Doe
1234 Boss Ln.
Anywhere USA 1234
4321
Date
Pay to the order of
Dollars
ABC
Bank
For
John Doe

Fig. 4

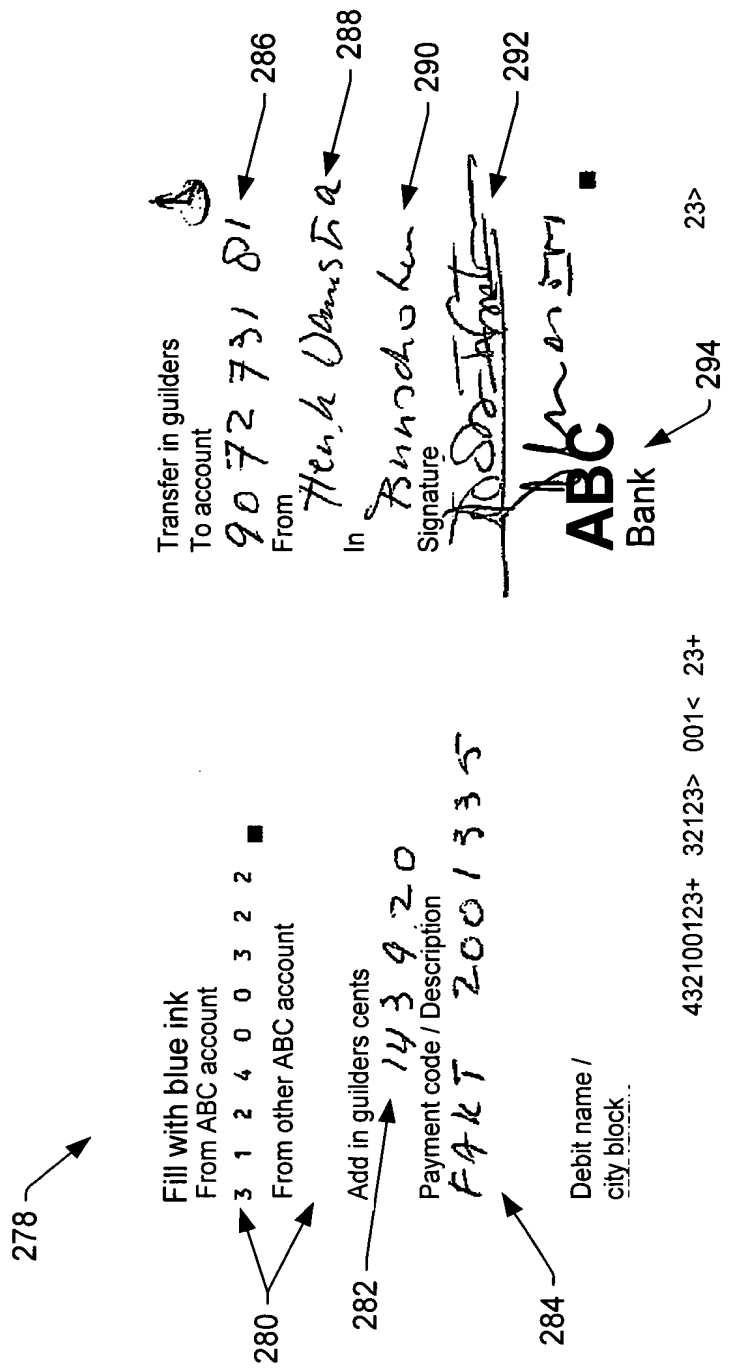

278
Fill with blue ink
From ABC account
3 1 2 4 0 0 3 2 2
From other ABC account
280
Add in guilders cents
282
Payment code / Description
FAKT 20013355
284
Debit name / city block
Transfer in guilders
To account
9072731 81
286
From
Henk Vanstra
288
In
Bunschoten
290
Signature
292
ABC
Bank
294
432100123+ 32123> 001< 23+
23>

Fig. 5

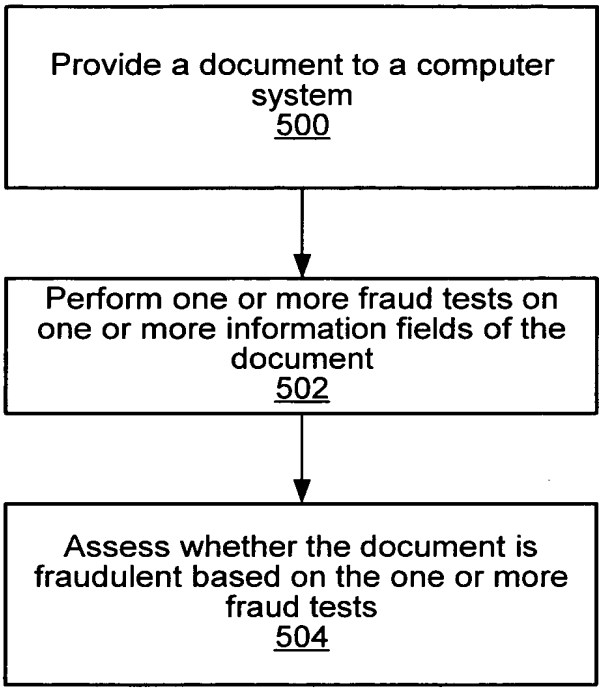

Provide a document to a computer system
500
Perform one or more fraud tests on one or more information fields of the document
502
Assess whether the document is fraudulent based on the one or more fraud tests
504

Fig. 6

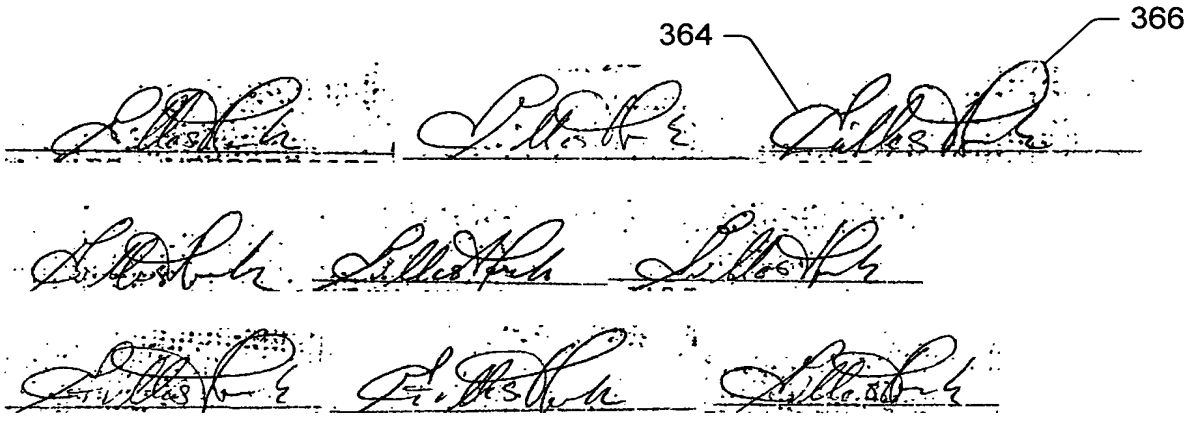

364
366

Fig. 7

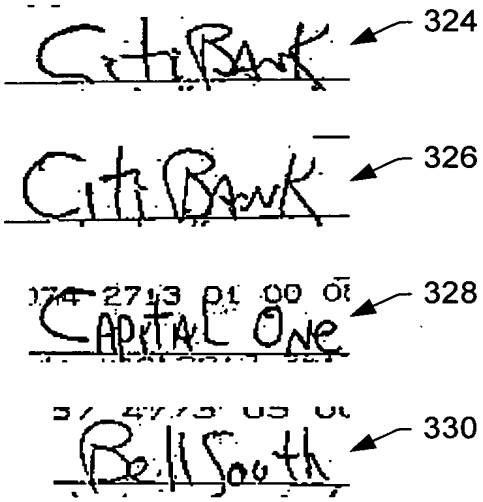

CitiBank
324
CitiBank
326
CAPITAL ONE
328
BellSouth
330

Fig. 8

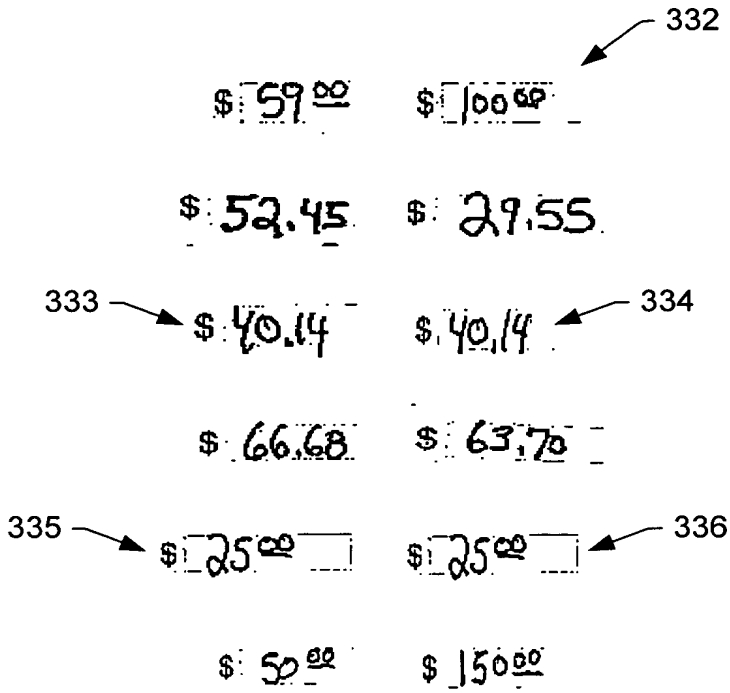

332
$ 59 00
$ 100 00
$ 52.45
$ 29.55
333
$ 40.14
$ 40.14
334
$ 66.68
$ 63.70
335
$ 25 00
$ 25 00
336
$ 50 00
$ 150 00

Fig. 9

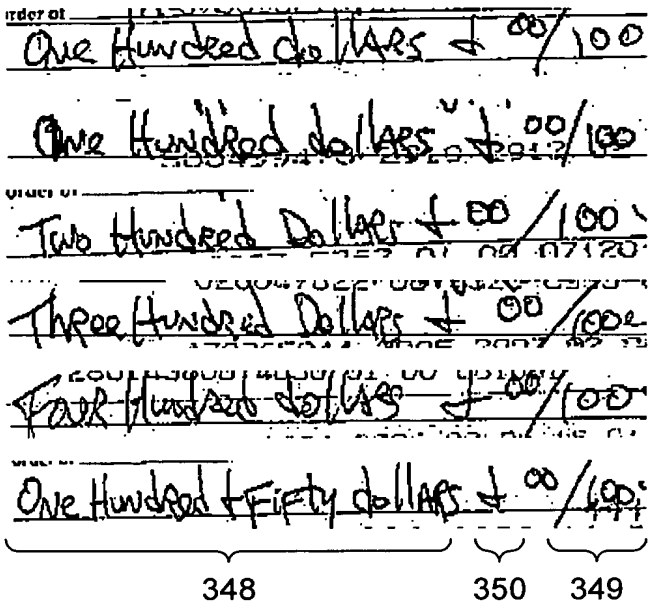

One Hundred Dollars and 00/100
One Hundred dollars and 00/100
Two Hundred Dollars and 00/100
Three Hundred Dollars and 00/100
Four Hundred dollars and 00/100
One Hundred Fifty dollars and 00/100
348
350
349

Fig. 10

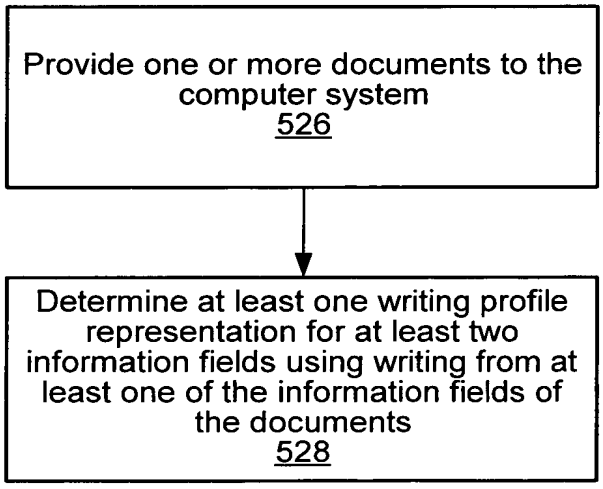

Provide one or more documents to the computer system
526
Determine at least one writing profile representation for at least two information fields using writing from at least one of the information fields of the documents
528

Fig. 11

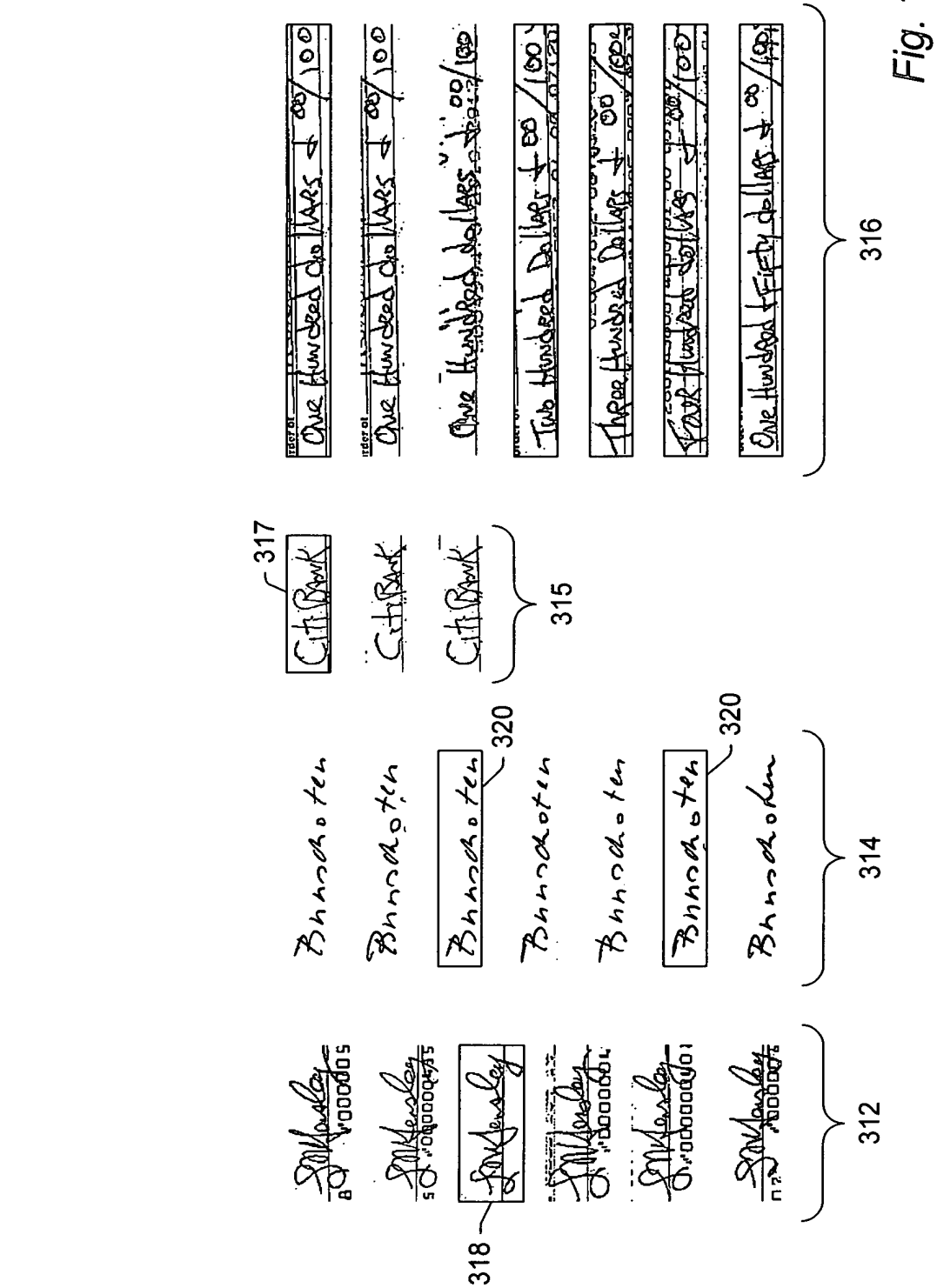


Fig. 12

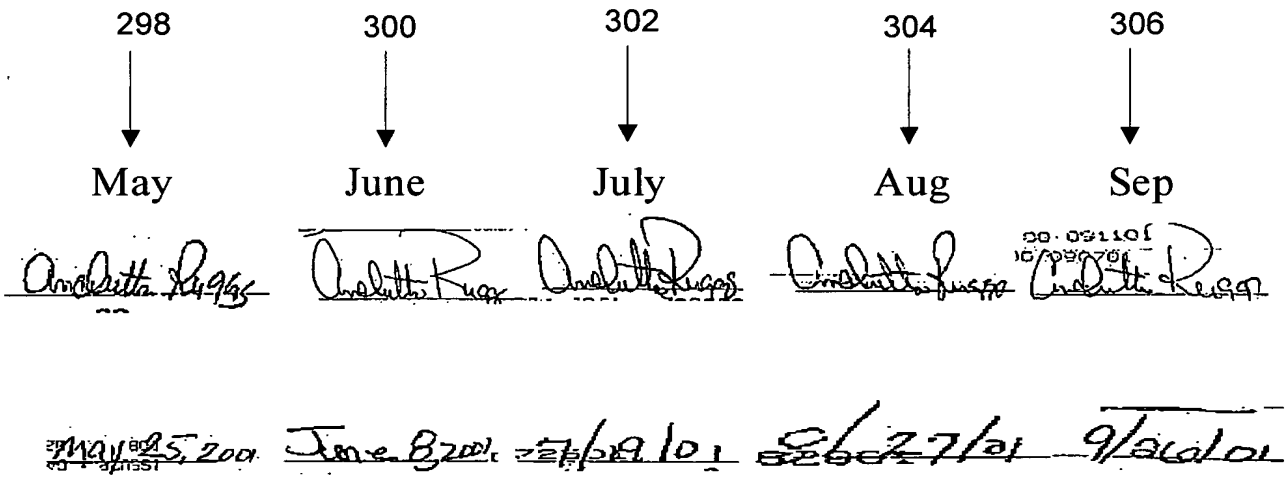

298
300
302
304
306
May
June
July
Aug
Sep

Fig. 13

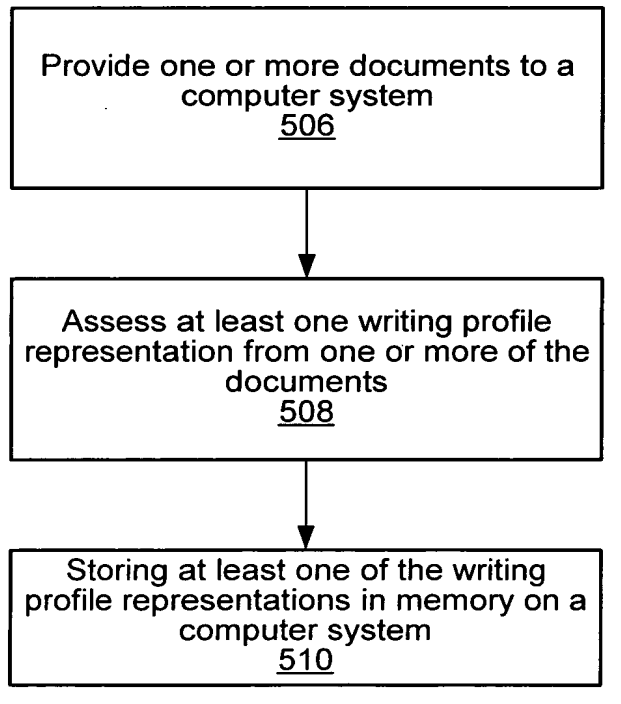

Provide one or more documents to a computer system
506
Assess at least one writing profile representation from one or more of the documents
508
Storing at least one of the writing profile representations in memory on a computer system
510

Fig. 14

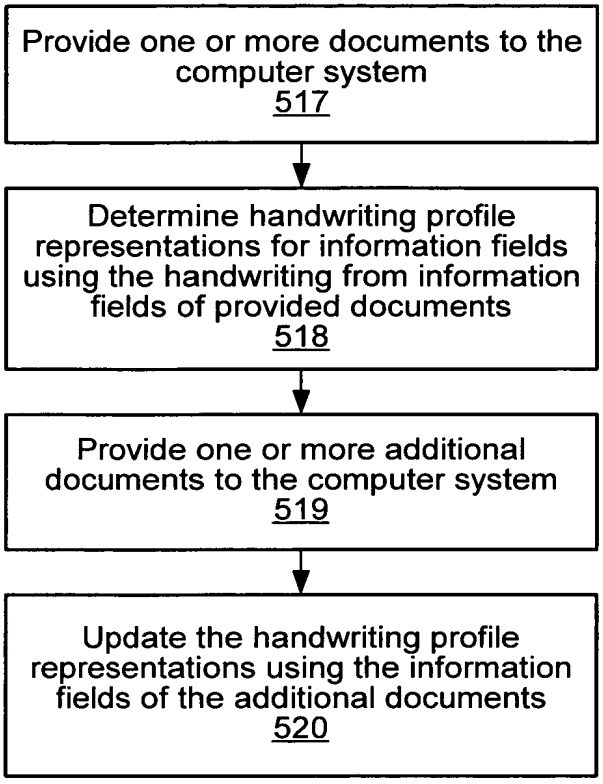

Provide one or more documents to the computer system
517
Determine handwriting profile representations for information fields using the handwriting from information fields of provided documents
518
Provide one or more additional documents to the computer system
519
Update the handwriting profile representations using the information fields of the additional documents
520

Fig. 15

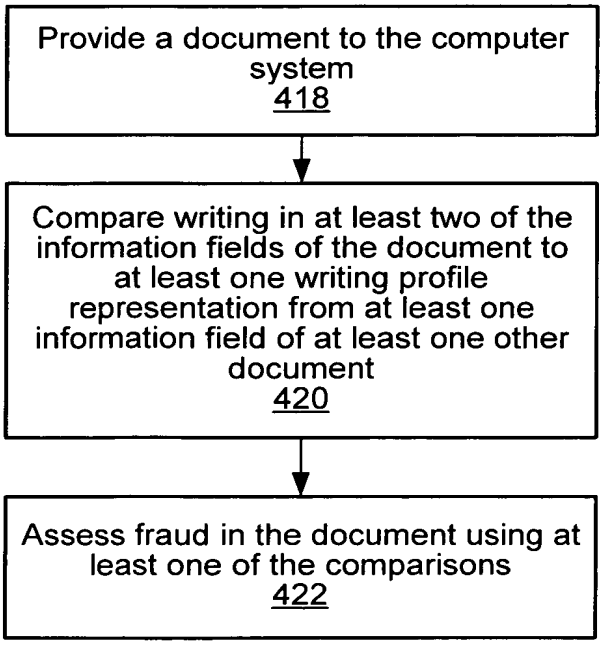

Provide a document to the computer system
418
Compare writing in at least two of the information fields of the document to at least one writing profile representation from at least one information field of at least one other document
420
Assess fraud in the document using at least one of the comparisons
422

Fig. 16

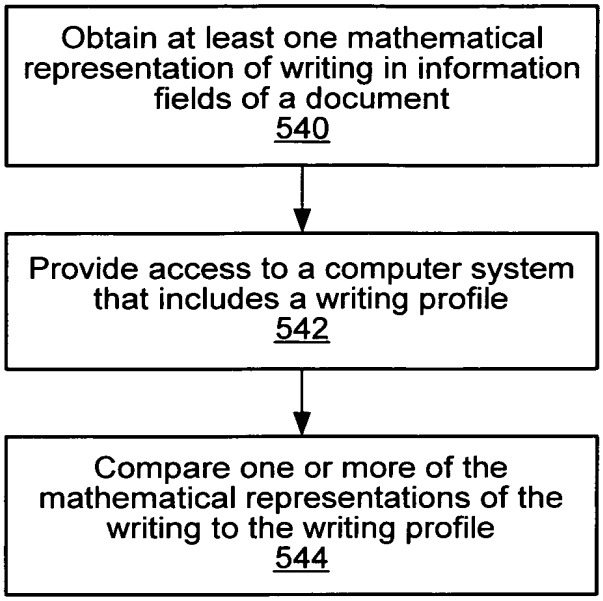

Obtain at least one mathematical representation of writing in information fields of a document
540
Provide access to a computer system that includes a writing profile
542
Compare one or more of the mathematical representations of the writing to the writing profile
544

Fig. 17

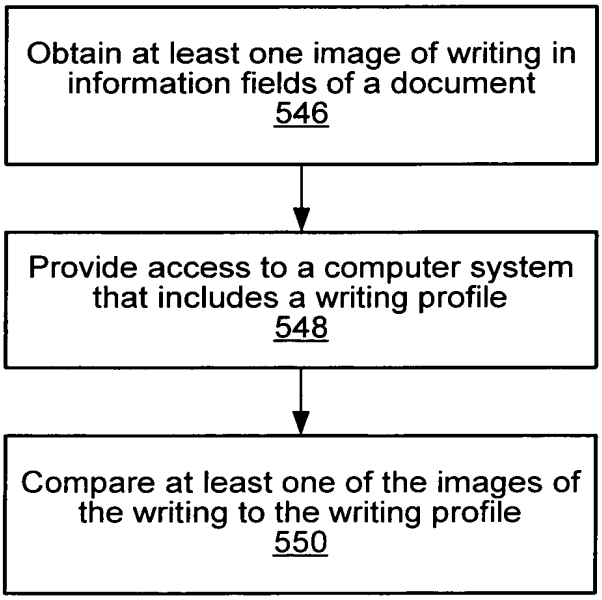

Obtain at least one image of writing in information fields of a document
546
Provide access to a computer system that includes a writing profile
548
Compare at least one of the images of the writing to the writing profile
550

Fig. 18

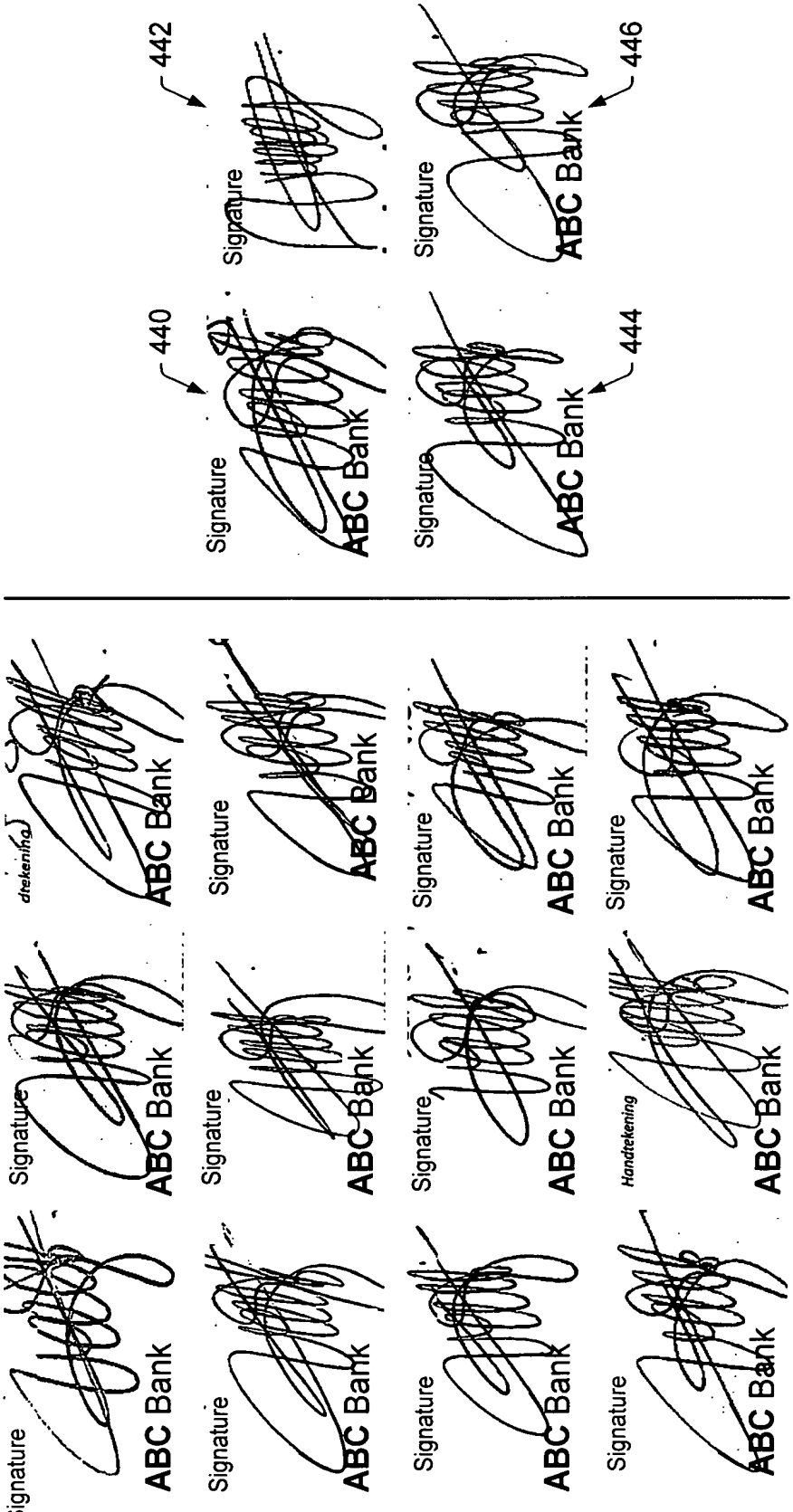

Signature
ABC Bank
Signature
ABC Bank
dtekening
ABC Bank
Signature
ABC Bank
Signature
ABC Bank
Signature
ABC Bank
Signature
ABC Bank
Handtekening
ABC Bank
Signature
ABC Bank
440
442
444
446
438

Fig. 19

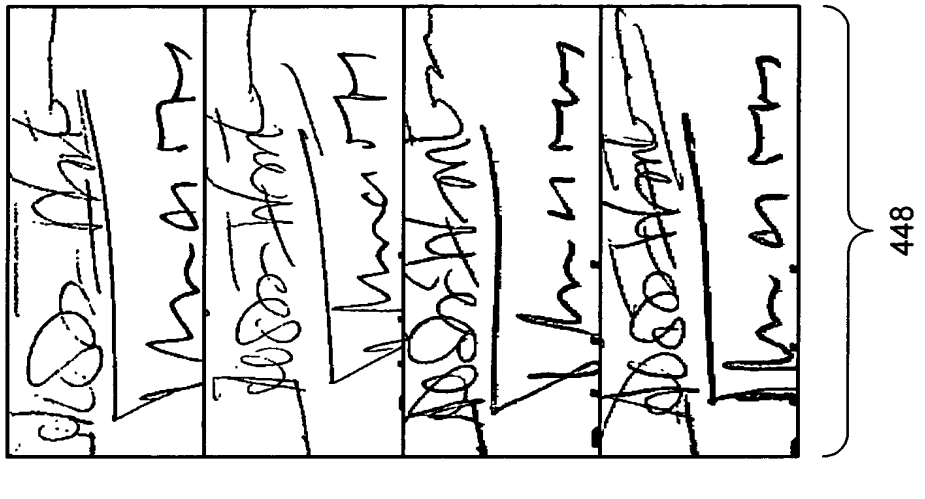


Fig. 20

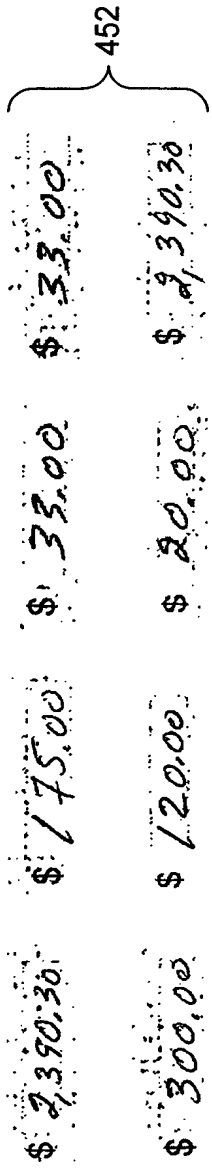

452
$ 2,390.30
$ 300.00
1. $ 52.00
454
$ 175.00
$ 120.00
$ 33.00
$ 20.00
$ 33.00
$ 2,390.30

Fig. 21

Fill with blue ink

From ABC account

3 1 2 4 0 0 3 2 2

From other ABC account

Add in guilders cents

208,65

Payment code / Description 434

SAL 9

Debit name / city block

Transfer in guilders

To account

81 59721

From

h. Cocs

In

Signature

436

ABC Bank

432100123+ 32123> 001< 23+ 23>

Fig. 22

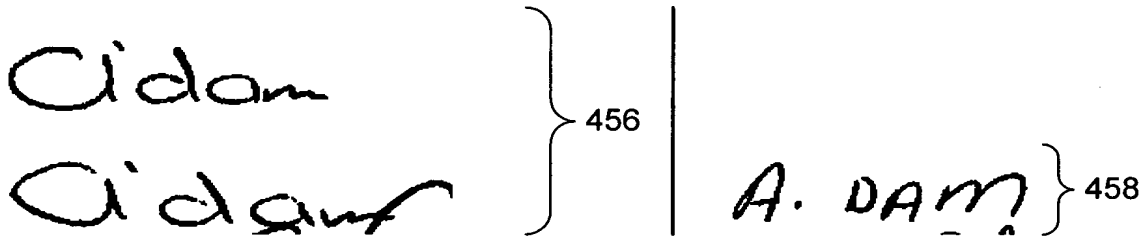

456
458

Fig. 23

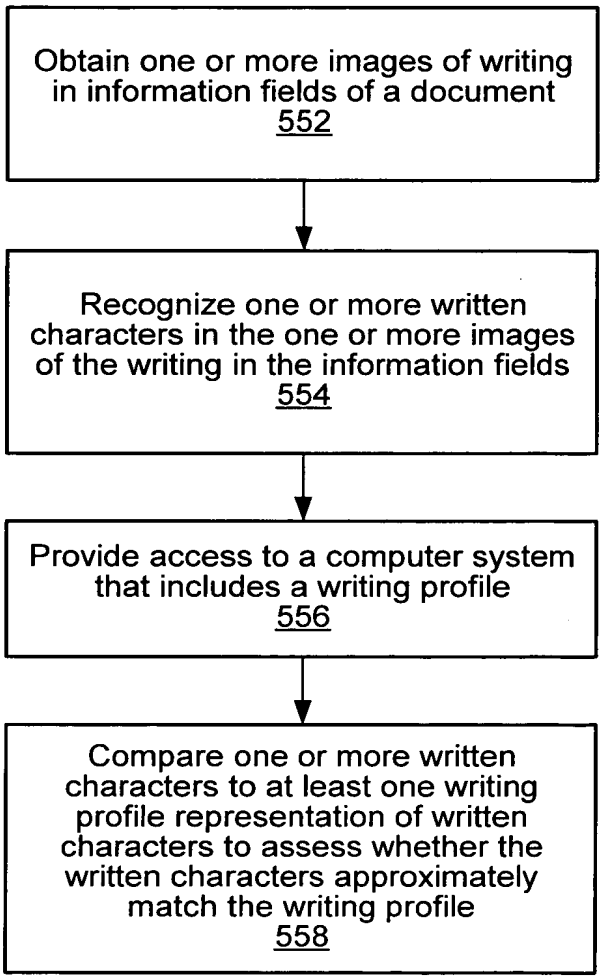

Obtain one or more images of writing in information fields of a document
552
Recognize one or more written characters in the one or more images of the writing in the information fields
554
Provide access to a computer system that includes a writing profile
556
Compare one or more written characters to at least one writing profile representation of written characters to assess whether the written characters approximately match the writing profile
558

Fig. 24

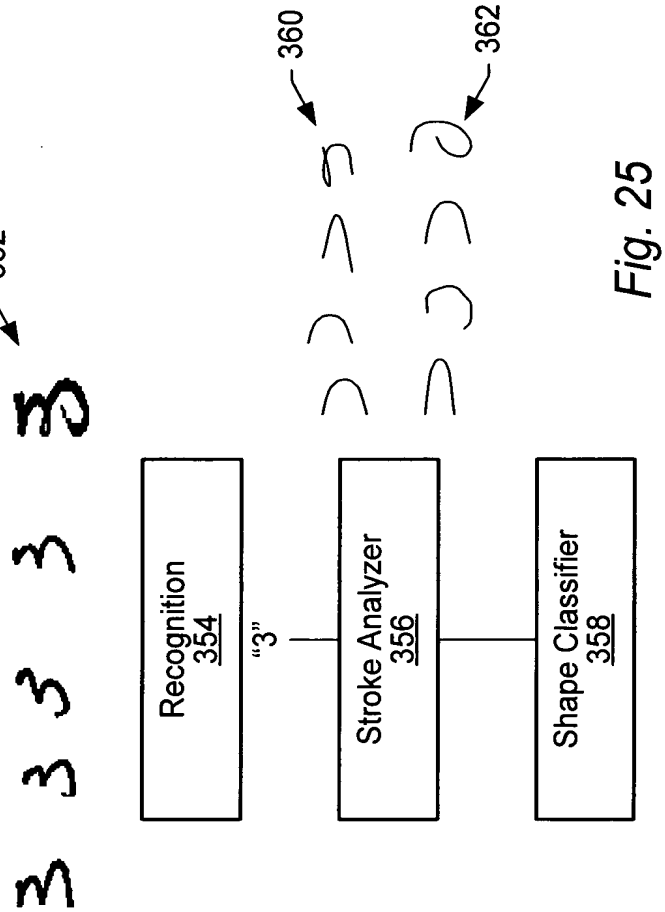

352
360
362
Recognition
354
"3"
Stroke Analyzer
356
Shape Classifier
358

Fig. 25

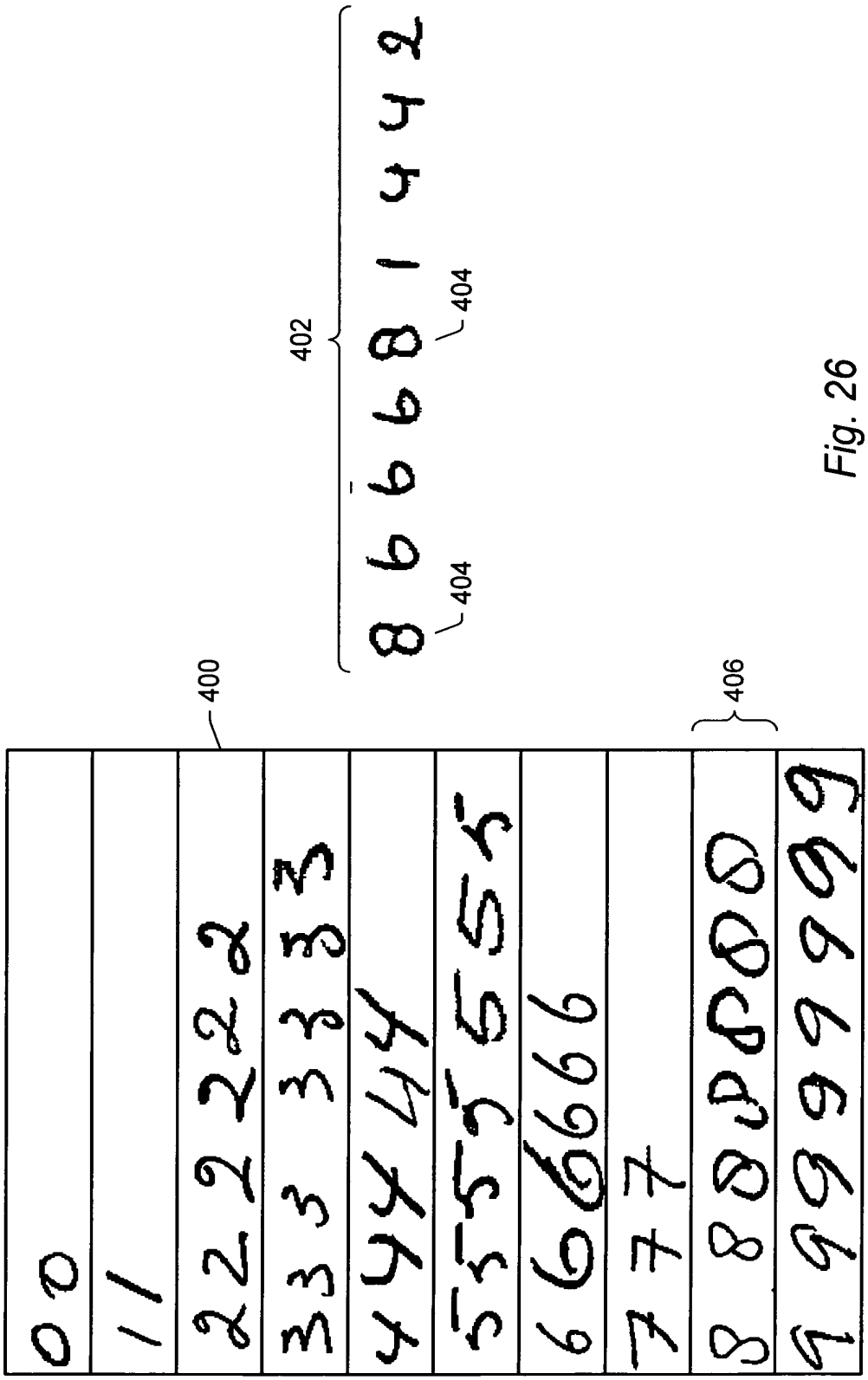


Fig. 26

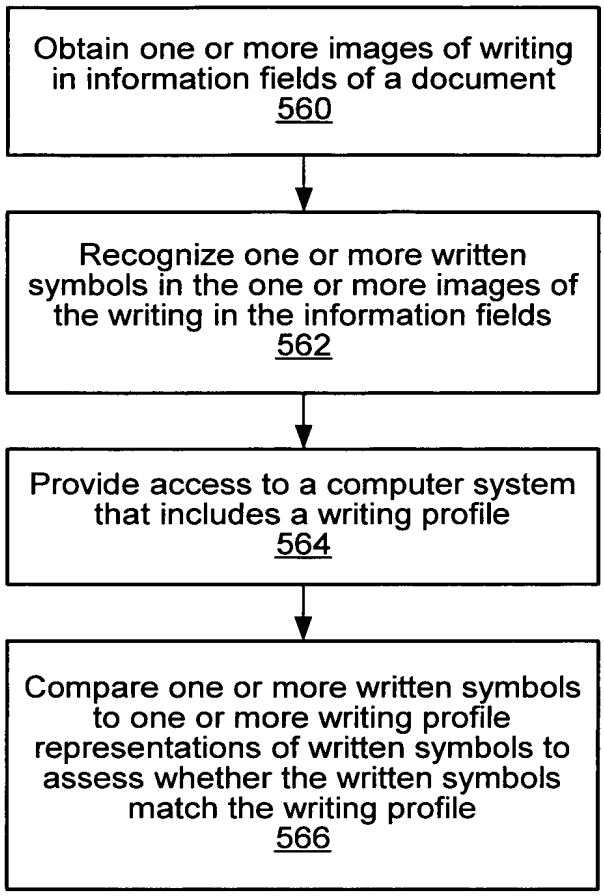

Obtain one or more images of writing in information fields of a document
560
Recognize one or more written symbols in the one or more images of the writing in the information fields
562
Provide access to a computer system that includes a writing profile
564
Compare one or more written symbols to one or more writing profile representations of written symbols to assess whether the written symbols match the writing profile
566

Fig. 27

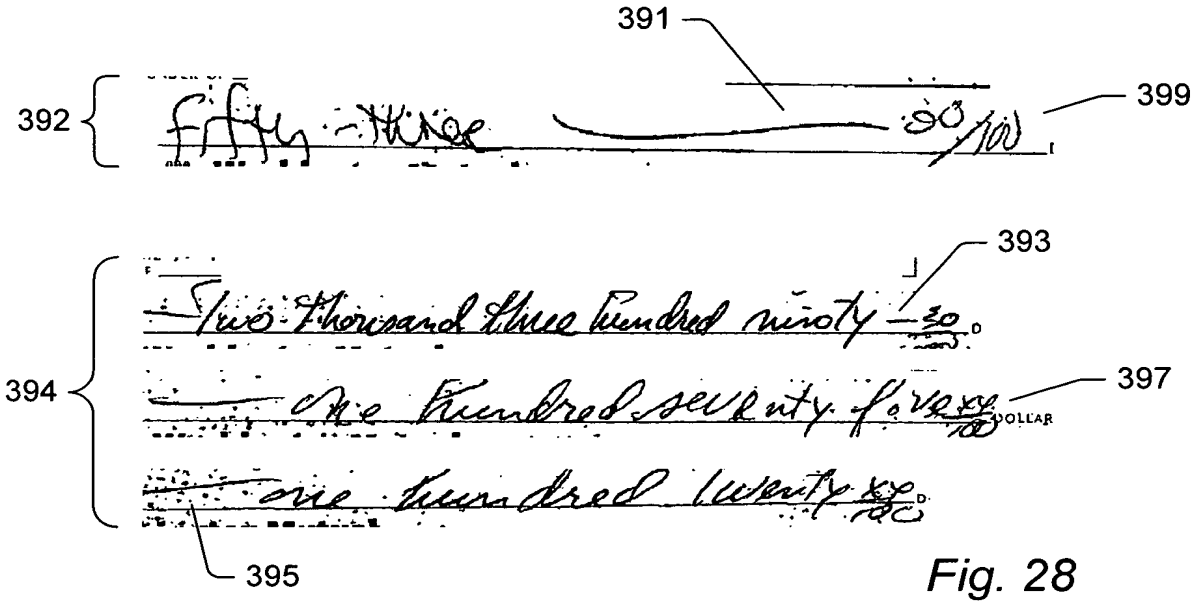

391
392
399
393
394
397
395

Fig. 28

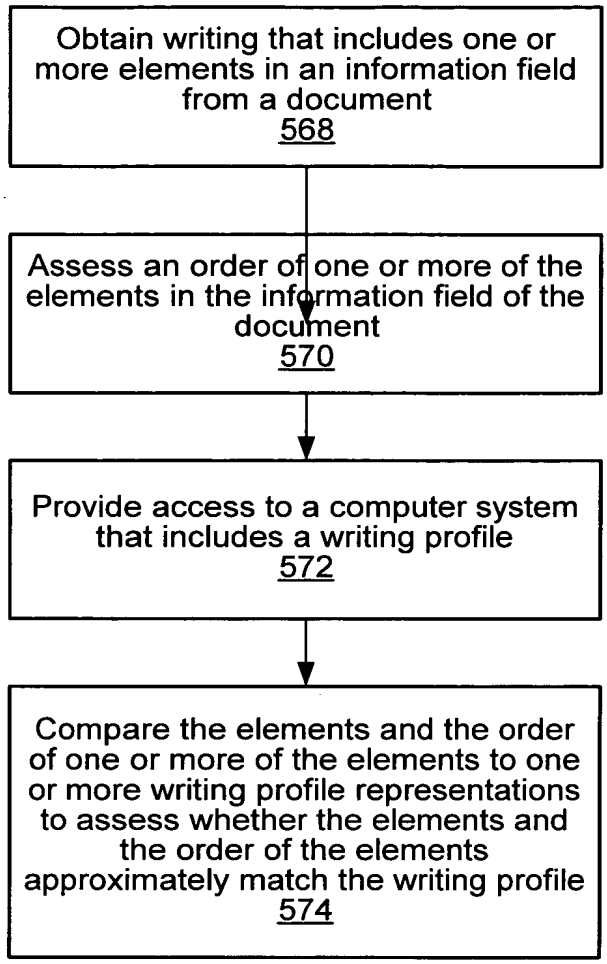

Obtain writing that includes one or more elements in an information field from a document
568
Assess an order of one or more of the elements in the information field of the document
570
Provide access to a computer system that includes a writing profile
572
Compare the elements and the order of one or more of the elements to one or more writing profile representations to assess whether the elements and the order of the elements approximately match the writing profile
574

Fig. 29

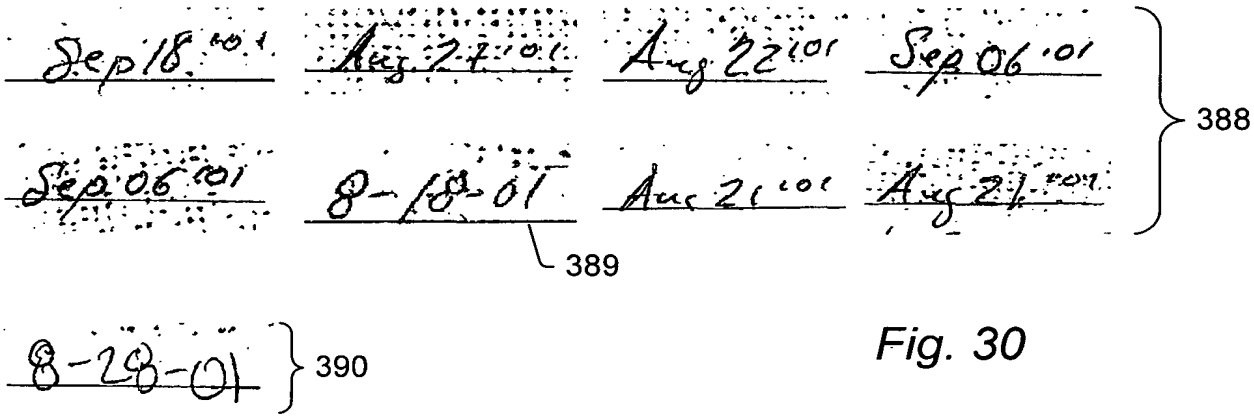

388
389
390

Fig. 30

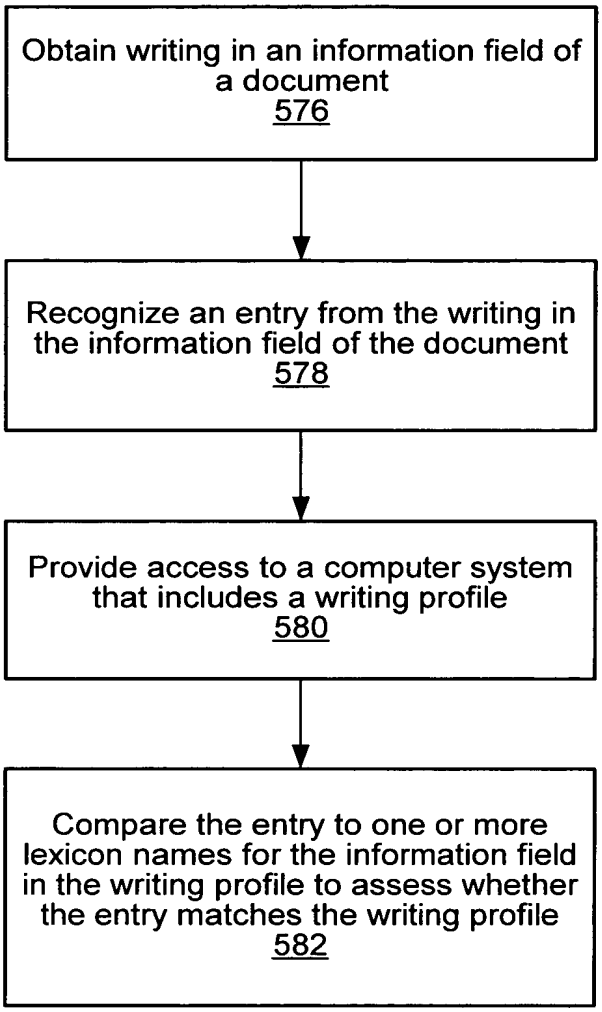
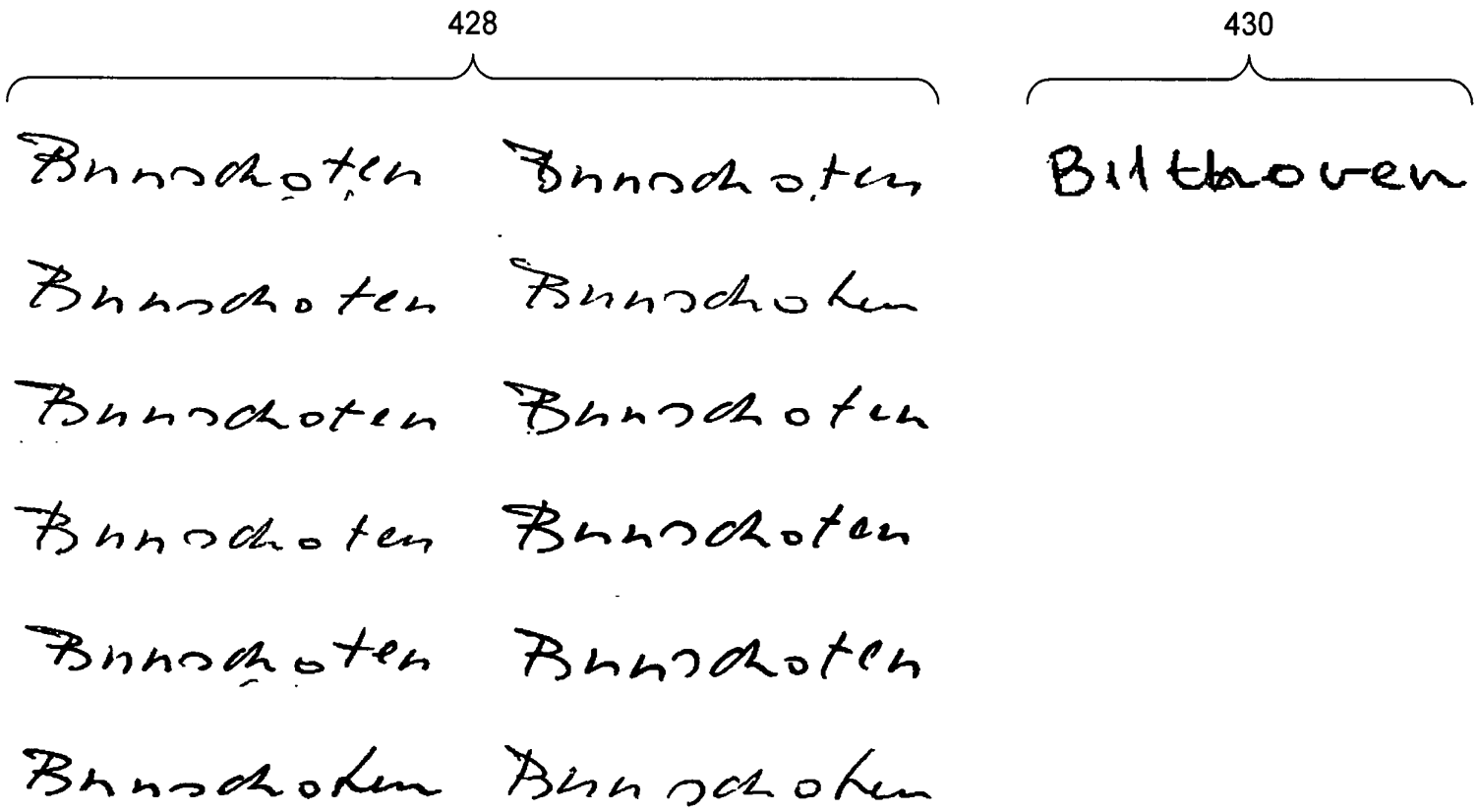

Obtain writing in an information field of a document
576
Recognize an entry from the writing in the information field of the document
578
Provide access to a computer system that includes a writing profile
580
Compare the entry to one or more lexicon names for the information field in the writing profile to assess whether the entry matches the writing profile
582

Fig. 31



Lexicon: { BUNSCHOTEN(13) HILVERSUM(2),NUUNSPUR(2), AMERSFOORT(11), SOESTERBERG(11), SOEST(8), BAARN(3), APELDOORN(1)} 432

Fig. 32

1. Empty	21. FAKT 202321	41. SAL 10
2. FAKT 202321	22. FAKT 2001335	42. SAL 10
3. SAL 8 REIS 9	23. FAKT 2001216	43. SAL 10
4. SAL 8 +REIS	24. SOFI 60761799	44. SAL 10
5. SAL 8 REIS 9	25. SAL 9	45. SAL 10 REIS 11
6. SAL 8	26. SAL + REIS 9	46. SAL 10
7. SAL 8	27. SAL 9	47. SAL 10
8. SAL 8	28. SAL 9	48. SAL 10
9. SAL 8 REIS 9	29. SAL 9 REIS 10	49. SAL 10
10. SAL 8	30. SAL 9	50. SAL 10
11. SAL 8	31. SAL 9	51. OMZETREL. OKT 2001
12. SAL 8	32. SAL 9	
13. SAL 7+8	33. SAL 9	
14. SOFI 60761799	34. SAL 9	
15. FAKT 103018	35. SAL 9	
16. FAKT 2001146	36. FAKT 013593	
17. 21.055	37. SAL 9	
18. FAKT 21077	38. SAL 9	
19. FAKT 21102	39. SOFI 60761799	
20. FAKT 21134	40. SAL 9	

464

Salaris+Vacantie

466

Fig. 33

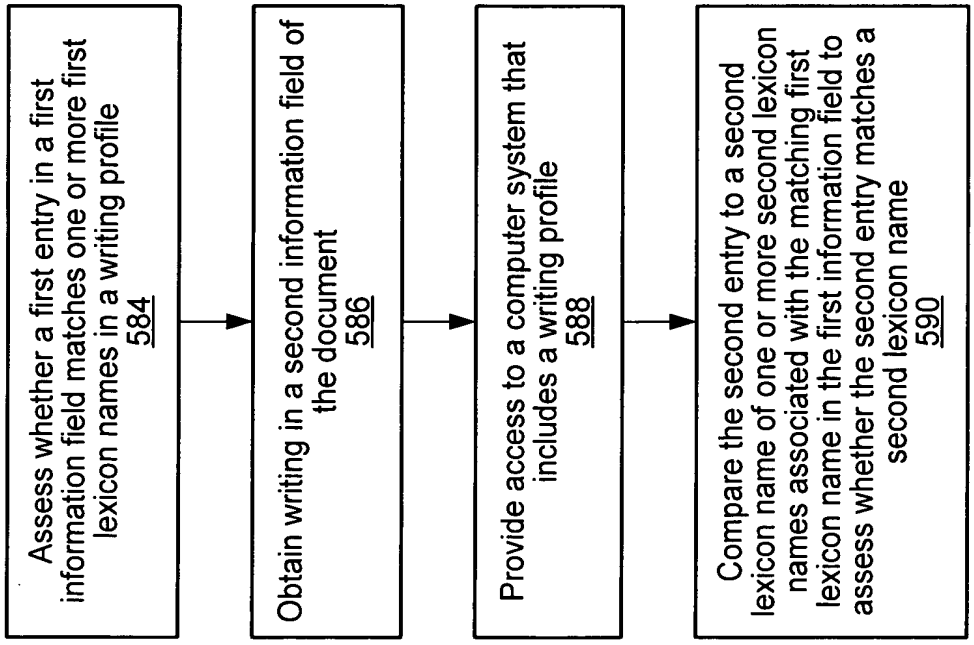

Assess whether a first entry in a first information field matches one or more first lexicon names in a writing profile
584
Obtain writing in a second information field of the document
586
Provide access to a computer system that includes a writing profile
588
Compare the second entry to a second lexicon name of one or more second lexicon names associated with the matching first lexicon name in the first information field to assess whether the second entry matches a second lexicon name
590

Fig. 34

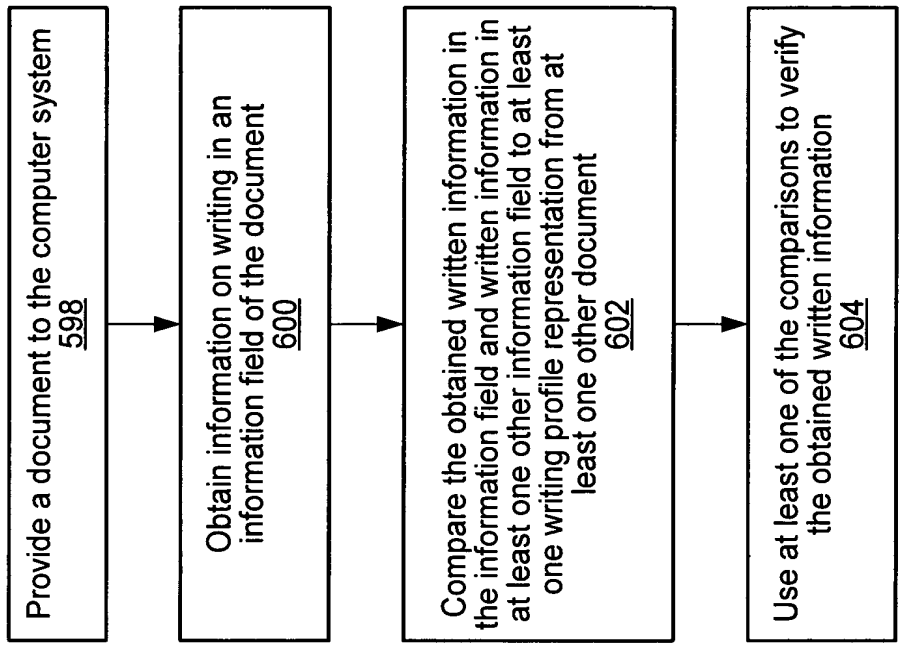

Provide a document to the computer system
598
Obtain information on writing in an information field of the document
600
Compare the obtained written information in the information field and written information in at least one other information field to at least one writing profile representation from at least one other document
602
Use at least one of the comparisons to verify the obtained written information
604

Fig. 35

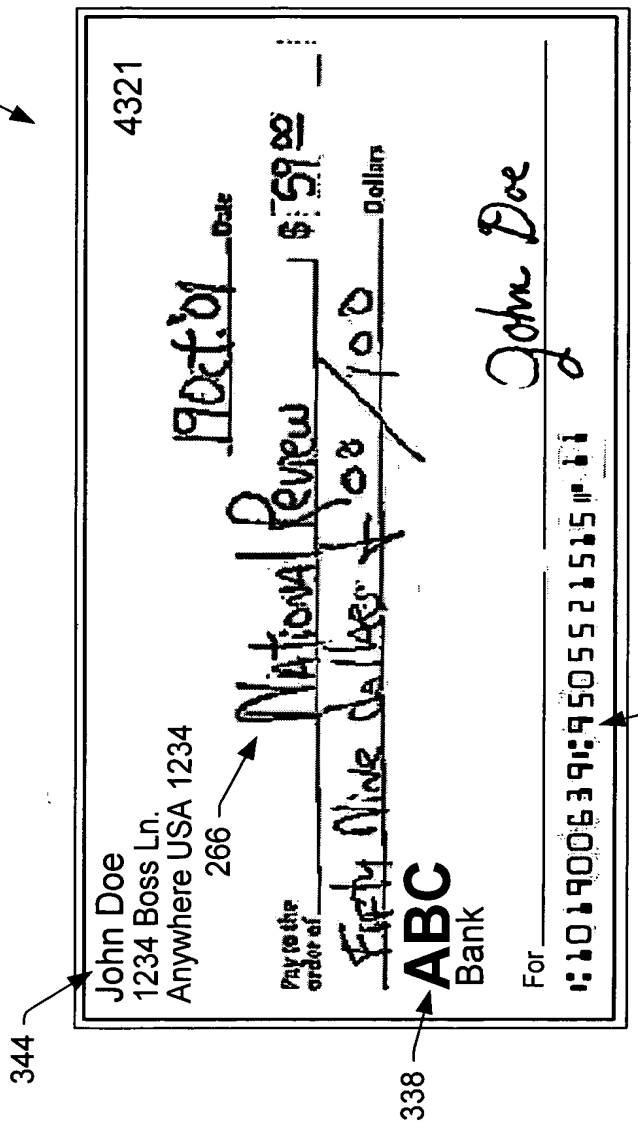

340
4321
John Doe
1234 Boss Ln.
Anywhere USA 1234
266
Pay to the order of
Dollars
ABC
Bank
For
John Doe
342
338
344

Fig. 36

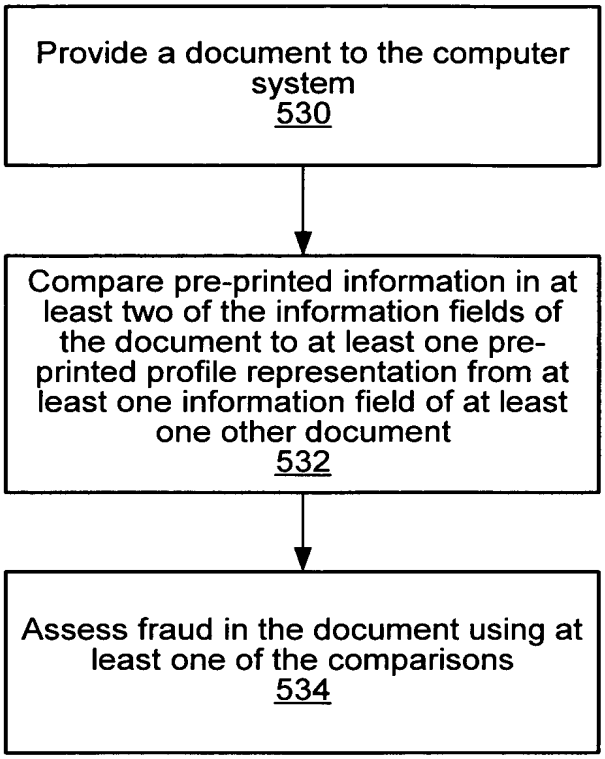

Provide a document to the computer system
530
Compare pre-printed information in at least two of the information fields of the document to at least one pre-printed profile representation from at least one information field of at least one other document
532
Assess fraud in the document using at least one of the comparisons
534

Fig. 37

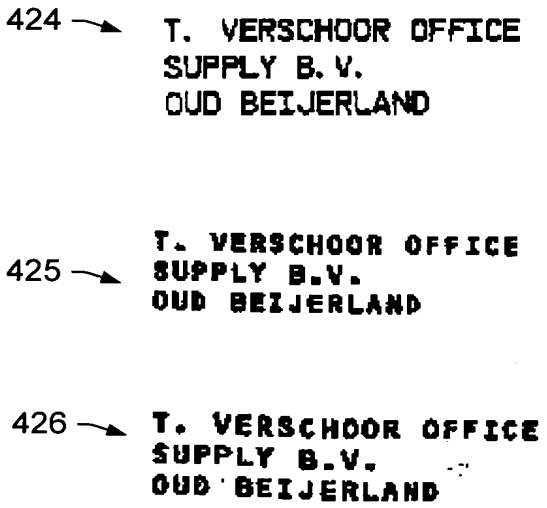

424
T. VERSCHOOR OFFICE
SUPPLY B.V.
OUD BEIJERLAND
425
T. VERSCHOOR OFFICE
SUPPLY B.V.
OUD BEIJERLAND
426
T. VERSCHOOR OFFICE
SUPPLY B.V.
OUD BEIJERLAND

Fig. 38

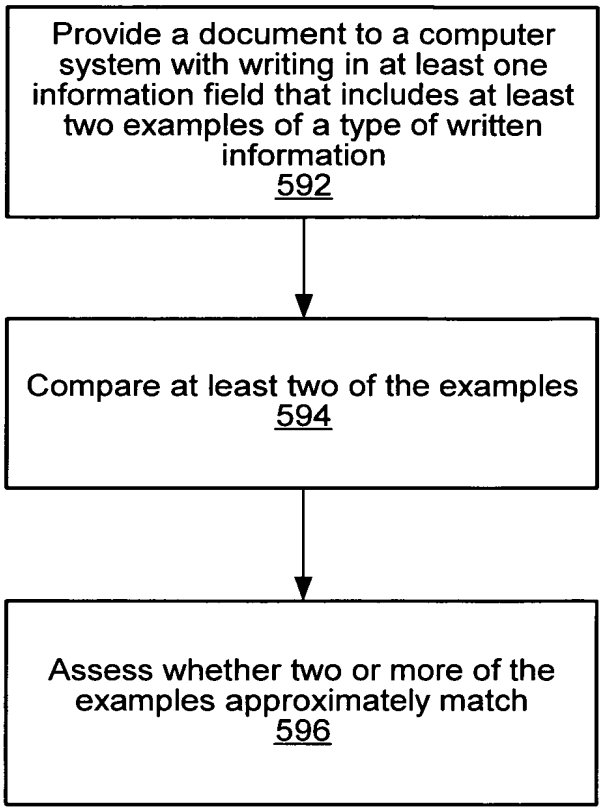

Provide a document to a computer system with writing in at least one information field that includes at least two examples of a type of written information
592
Compare at least two of the examples
594
Assess whether two or more of the examples approximately match
596

Fig. 39

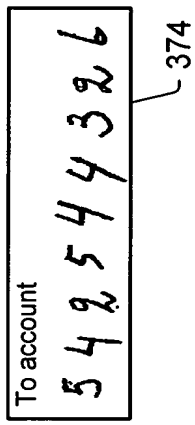
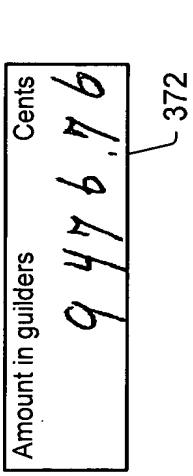


Fig. 40a



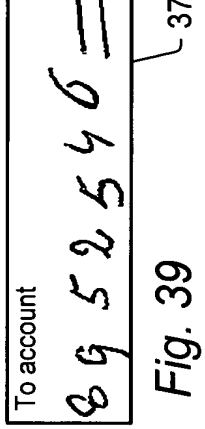


Fig. 40b

Fig. 39

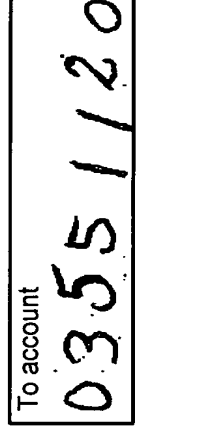


Fig. 40c

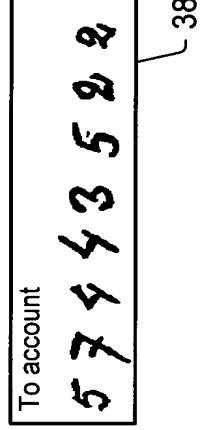


Fig. 40d

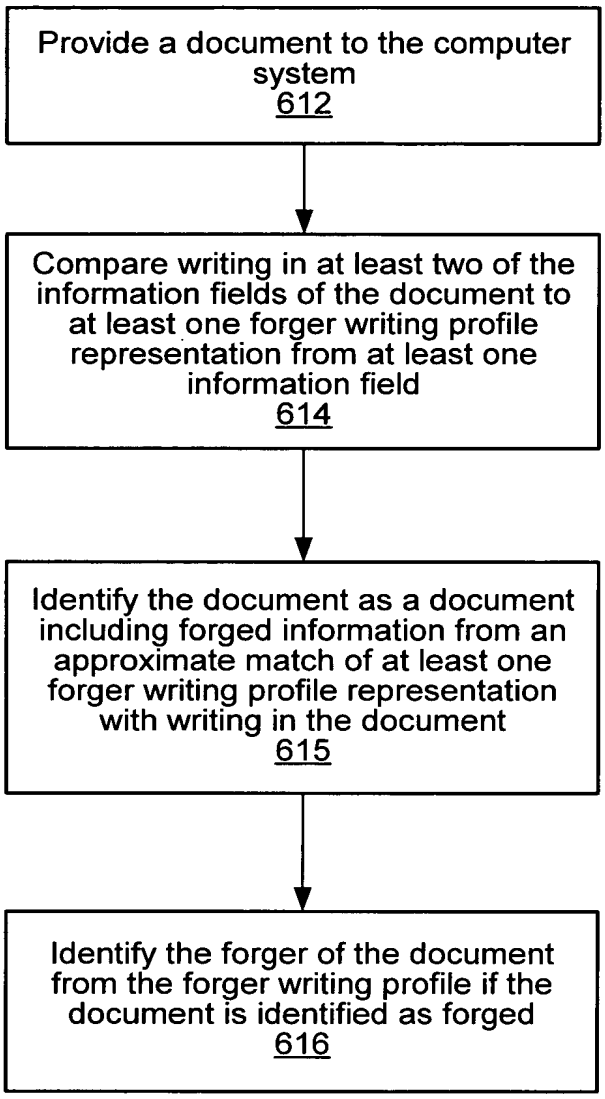

Provide a document to the computer system
612
Compare writing in at least two of the information fields of the document to at least one forger writing profile representation from at least one information field
614
Identify the document as a document including forged information from an approximate match of at least one forger writing profile representation with writing in the document
615
Identify the forger of the document from the forger writing profile if the document is identified as forged
616

Fig. 41

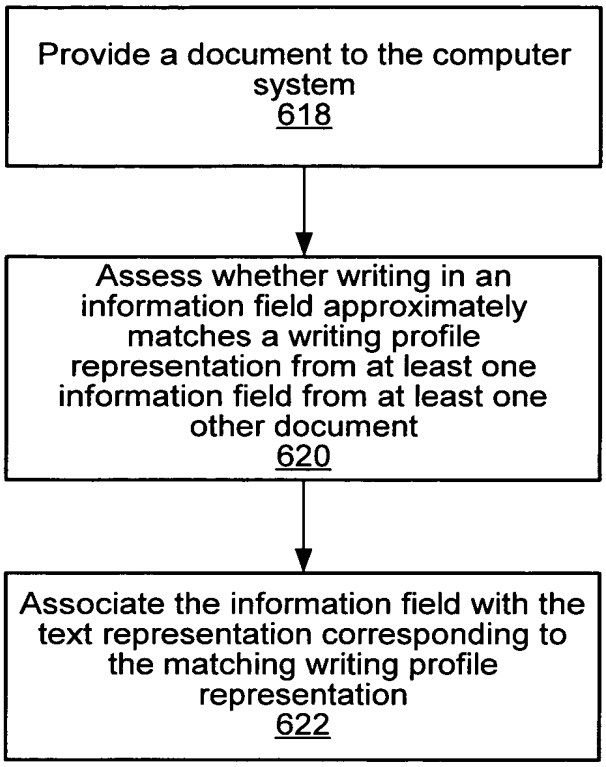

Provide a document to the computer system
618
Assess whether writing in an information field approximately matches a writing profile representation from at least one information field from at least one other document
620
Associate the information field with the text representation corresponding to the matching writing profile representation
622

Fig. 42

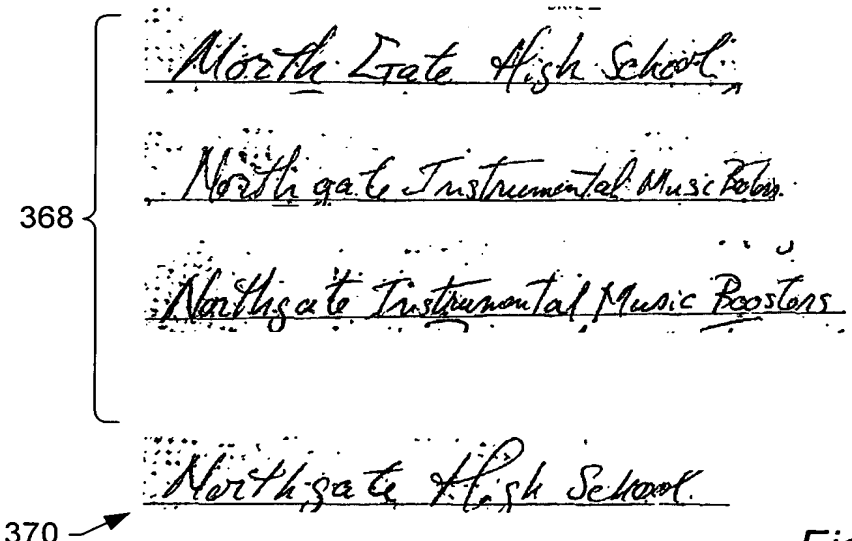

368
370

Fig. 43